

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)

Report on a Comprehensive Rural Broadband)
Strategy)

Section 6112 of the 2008 Farm Bill)

GN Docket No. 09-29

WT Docket No. 07-293

To: Wireline Competition Bureau and Wireless Telecommunications Bureau

**COMMENTS OF THE
NATIONAL RURAL TELECOMMUNICATIONS COOPERATIVE**

The National Rural Telecommunications Cooperative (“NRTC”) hereby submits these Comments in response to the Public Notice in the above-captioned proceeding issued by the Commission on March 10, 2009.

I. INTRODUCTION

NRTC is a non-profit cooperative¹ that has provided advanced telecommunications services to rural America since 1986. NRTC’s mission is to lead and support its rural utility cooperative members by delivering telecommunications solutions to strengthen member businesses, promote economic development, and improve the quality of life in rural America. NRTC wishes to thank the Federal Communications Commission (the “Commission”) and the Department of Agriculture (the “Department”) for their recognition of the importance of

¹ NRTC and its member cooperatives are not-for-profit entities that are owned by the community of members they serve. As a Subchapter-T organization under the United States Tax Code, NRTC returns any net margin (i.e., profits) to its members in the form of cash and equity patronage. NRTC was created to serve its members and bring advanced telecom to rural America on this non-profit basis.

providing broadband to rural markets and for undertaking this study. These comments respond to the questions posed by the Commission and the Department and are intended to be informative with respect to the processes and procedures being formulated by the Department's Rural Utility Services ("RUS") and the Department of Commerce through the National Telecommunications & Information Administration ("NTIA") for implementation of the American Recovery & Reinvestment Act of 2009 ("ARRA").

II. NRTC'S BACKGROUND IN BROADBAND IN RURAL AMERICA

NRTC provides advanced telecommunications and information technology and services to more than 1,400 rural utilities and affiliates in 48 states. Of those members, 480 are local independent or cooperative telephone companies and 808 are electric cooperatives. NRTC member cooperatives have, in most cases, served their communities for over half a century, delivering critical utility services and infrastructure projects to more than forty million customers spread over more than 80 percent of the landmass of the United States. Often, NRTC members are their community's largest employer, with many of those jobs created by RUS-backed projects.

The essential goal of NRTC and its member cooperatives is to close the urban-rural gap, allowing Americans living in small towns, on farms and ranches, and in the most remote reaches of our nation to enjoy the same electric, phone, television and other essential technologies – now including broadband – as are enjoyed by those in urban settings.

NRTC was created by the National Rural Electric Cooperative Association (NRECA) and the National Rural Utility Cooperative Finance Corporation (NRUCFC) to find, commercialize and deliver advanced telecommunications and technological innovations to the family of rural cooperatives. That effort has included bringing television services, wireless

voice, satellite broadband, smart grid technologies, and a host of other leading-edge technologies to rural America.

NRTC was the first independent (i.e., non-programmer affiliated) packager of television services in the C-band direct-to-home television industry and, with the help of the Congress and the Commission, led the effort to gain access to programming for delivery technologies competing with cable. At that time, C-band was the only method of delivering a full line-up of cable programming to the most remote and unserved areas of the nation.

As satellite television technology evolved, in 1994 NRTC provided the initial capital to Hughes Communications, a wholly-owned subsidiary of General Motors, helping to launch DIRECTV with over \$100 million raised from NRTC members. NRTC members then led the rollout and distribution of that service, eventually becoming the largest distributor of DIRECTV with nearly 2 million customers in rural and underserved markets.

In 2007, the video business of NRTC again evolved as the cooperative began distributing over 300 channels of cable programming to rural markets in Internet protocol television (“IPTV”) format with MPEG-4 compression. NRTC was among the first – if not *the* first – to offer this technology in the United States. Through IPTV / MPEG-4, NRTC’s telephone cooperative members are able to deliver a full lineup of video, including high-definition, over copper phone lines.

NRTC is also a supplier of advanced smart grid equipment. NRTC supplies its members and their customers in rural America with a wide range of energy-efficiency technologies, such as advanced metering, SCADA, and demand-response equipment.

Early in the Internet boom of the 1990’s NRTC became an Internet Service Provider (ISP) for its members, providing e-mail and other online services to dial-up, cable, and DSL

access. Today, NRTC provides ISP services to over 200,000 customers through some 300 NRTC cooperatives.

In recent years, NRTC has been a pioneer in the delivery of broadband via satellite to bring faster Internet service to rural Americans, many of whom had no access other than dial-up service. NRTC began with one-way satellite Internet service and then piloted two-way satellite systems with StarBand and HughesNet. In April 2003, NRTC joined with Liberty Satellite, LLC and Intelsat USA Sales Corporation investing in and launching WildBlue Communications, Inc. (WildBlue), a Ka-band DOCSIS-based satellite licensee offering two-way high-speed Internet access targeted to rural areas lacking alternative access resources.² WildBlue launched service in 2005 and today it serves over 340,000 homes and businesses, of which about 82,000 are served by NRTC members.

NRTC is now acting to ensure even greater delivery of high-speed Internet access through terrestrial wireless broadband throughout rural America. NRTC is currently working in concert with Digital Bridge Communications, Inc. (“DBC”), a young but successful WiMAX provider that offers service in 15 markets. (Details about DBC and its operations may be found in comments filed by DBC in this proceeding.) With funding from ARRA, NRTC and its members will be poised to begin deploying DBC’s WiMAX service in numerous rural markets. For that reason, this proceeding and the opportunities provided under ARRA are of critical interest and importance to NRTC members and their customers throughout rural America.

² WildBlue currently offers its Ka-band satellite broadband service from two satellites: Anik-F2 satellite located at 111.1° W.L. and WildBlue 1 at 109.2° W.L.

III. UNIVERSAL BROADBAND FOR RURAL AMERICA – AN ACHIEVABLE GOAL

Through a combined offering of WiMAX and WildBlue, with financial support under ARRA, NRTC members will be capable of offering universal access to broadband service throughout rural America. In addition to residential service, NRTC's rural broadband plan will encompass service to residences, businesses, schools, public facilities, medical centers and, where applicable, Tribal lands.

WiMAX is a least-cost, readily deployable broadband technology that also offers great potential for mobility as well as fixed service. WiMAX enabled laptops allow consumers to access broadband throughout the service area and, in the near future, to interconnect on a roaming basis with other WiMAX providers for true mobility.

Using WiMAX, NRTC members will be able to reach customers within a six to eight mile radius of each WiMAX tower. This broadband service offers carrier-grade quality and operates at speeds of 1 to 4 Mbps. For the consumer, the customer premise equipment (CPE) is a small, self-contained receiver that is typically self-installed by the customer within two to three miles of the towers. Small outdoor WiMAX antennas will be used for customers in the three to eight mile range from the tower. Indoor CPE costs are currently under \$175 per unit; outdoor CPE (which typically requires professional installation) is under \$300 per install.

The experience of DBC in its current 15 markets is that service can be implemented within six to nine months of groundbreaking at an average cost of about \$50 per household passed. The efficiency of WiMAX is quickly realized when compared to landline deployments

with costs that are typically twenty to fifty times³ that of WiMAX, and which can take years to deploy in sparsely populated areas.

For rural consumers who live or work beyond the reach of WiMAX, NRTC members can provide WildBlue's two-way satellite Internet service. WildBlue technology provides broadband Internet access to consumers lacking access to terrestrial networks. People living on farms and ranches, in low-population and isolated areas, can access Internet services that most urban Americans take for granted as a part of their everyday lives such as e-mail, Web browsing, e-commerce, and other services that are difficult, if not virtually impossible, to use via a dial-up connection. Satellite broadband, with its ubiquitous coverage, reaches remote areas in the most cost-effective manner available. It is the *only* technology today that can provide reasonable broadband service to virtually every home and business in the United States.

Recognizing that satellite CPE cost can be a barrier to implementation, NRTC recently announced a subsidized leasing program for its members to pass on to customers in their rural markets. WildBlue customers can now gain access to the service for just \$99, which includes CPE and installation. Under this program, the actual CPE cost of \$400 is subsidized by NRTC and its members. This subsidized program has been launched as a test to help expand access to broadband, but it may require financial assistance from ARRA to be maintained.

Operating at speeds of up to 1.5 Mbps downlink and 256 Kbps uplink⁴, WildBlue satellite broadband systems offer Internet connections that are typically five to ten times the speed of typical dial-up service. A 150 kilobyte webpage that takes more than 20 seconds to

³ See www.dailywireless.org/2008/08/20/fios-too-risky; See also, Light Reading, *Figuring Fios* (Sept. 27, 2006) http://www.lightreading.com/document.asp?doc_id=104753; Verizon, *What is Fios?* (May 2007) <http://newscenter.verizon.com/kit/nxtcomm/Product-sheet-FiOS-1Q07.pdf>.

⁴ WildBlue "Pro" is up to 1.5 Mbps down / 256 Kbps up; "Select" is 1.0 Mbps down / 200 Kbps up; and "Value" is 512 Kbps down / 128 Kbps up.

download via a 28Kbps dial-up connection loads in under 3 seconds on WildBlue.⁵ While satellite broadband may not be as fast as a terrestrial broadband service, it is without question a Godsend to WildBlue customers who have dial-up as their only alternative.

IV. ALL BARRIERS TO DELIVERY OF BROADBAND IN RURAL AMERICA CAN AND SHOULD BE ELIMINATED

According to the Pew Internet & American Life Project⁶ (the “Pew Study”) rural Americans continue to lag behind urban and suburban consumers in broadband adoption. The Pew Study reflects that while urban and suburban have broadband access at rates of 57 percent and 60 percent, respectively, only 38 percent of rural users have broadband access.⁷ While the number of rural homes with broadband has grown from 31 percent in 2007⁸, there is work to be done to help ensure that *all* Americans have access to broadband, whether urban, suburban, or rural.

Broadband connectivity is a vital part of everyday American life, and as new technologies and faster speeds become available, new economic opportunities, educational programs and life-saving medical and public safety applications will arise. While those advancements exist or are emerging today in most of America, they are emerging much more slowly, if at all, in the more remote areas of our nation. There is no reason for the reach of broadband service to be inhibited or restrained in any corner of America, **no** matter how isolated.

⁵ See speed demonstration at http://www.wildblue.com/aboutWildblue/speed_demo.jsp.

⁶ See “Home Broadband Adoption 2008” (July 2008) available at <http://www.pewinternet.org>.

⁷ Pew Study at p. 3.

⁸ Pew Study at p. ii.

The technology exists *now* to serve virtually every home and business through a combination of WiMAX and satellite broadband. These technologies can provide universal coverage and, through NRTC and its members, be deployed quickly on a least-cost basis.

V. RECOMMENDED AGENCY APPROACHES FOR RURAL BROADBAND

Interagency cooperation and coordination will be essential to making programs under ARRA a success. NRTC applauds the NTIA and RUS for the degree of coordination and cooperation those agencies have demonstrated through their recent joint roundtables and the Joint Request they have issued. In formulating the final rules and procedures, the guiding principles that NRTC would recommend to those agencies are as follows:

- In recognition of the fact that rural America has less than 40 percent broadband penetration, for purposes of broadband funding, there should be a *presumption* that all counties designated as “rural” are “unserved” or “underserved”, and thus eligible for funding under ARRA.
- In implementing the grant and/or loan processes at NTIA and RUS, NRTC urges that priority be given to grant applicants that demonstrate a clear and proven ability to deploy broadband services rapidly and on a least-cost basis, taking into consideration the capital costs to deploy (i.e., cost per home passed), CPE costs and monthly service fees.
- Agencies should implement rules and processes that will minimize the barriers to grant or loan applications. With respect to RUS, communities or areas that have been foreclosed because of a pre-existing loan should be reopened for eligibility. There are many areas for which an RUS loan has been authorized and which are now off-limits to any other broadband provider. Yet, in many cases, loan recipients have not made substantive

progress on deployment of the proposed broadband service. In any new rules that the RUS may promulgate, provisions should be included that prevent the blocking or “warehousing” of any markets.

- While a national broadband map may ultimately have great value, the task of creating such a map should not impede timely funding and deployment of any broadband service. Applicants for funding should, however, be required to include local mapping for any proposed service area covered by an application.
- Agencies should avoid any hard-line data speed standards and any “gold standard” level of service. Without question, the faster a service is the better. But in this case, great is the enemy of good. With millions of Americans lacking broadband, the goal should be to ensure access to best reasonable level of service, given all circumstances. Download speeds greater than 1 Mbps – potentially available within weeks or months after funding – are a vast improvement for the majority in rural America. Consumers should not be forced to wait a longer period for a “gold” or “platinum” level of service that may never arrive. In areas where the delivery of any form of terrestrial broadband service is not feasible (or at least not in the near term), the agencies should acknowledge and support satellite delivered broadband, irrespective of speeds.
- Applicants for funding should make a good faith effort to coordinate with state and local jurisdictions and seek to meet the needs of the community. However, in order to avoid an added layer of complexity (and potential delay) funds should not be channeled through or governed by any governmental agencies other than NTIA and RUS.

- While WiMAX and satellite can provide the last mile of service, there must be ready access to the “middle mile” in order to connect with the Internet on a national level. NRTC believes that a free market approach will be sufficient in most cases. In situations where the middle mile or national backbone provider refuses to allow access on commercially reasonable terms and prices, the Commission should implement and employ procedures to hear and address such cases in an expedited manner. NRTC would also urge NTIA and RUS to implement rules that support the deployment of middle mile fiber in rural markets along right-of-ways to provide interconnection with last-mile technologies such as WiMAX.
- The agencies should develop consistency in regulations and definitions and commonality of forms and procedures to facilitate application processes for both the agencies and applicants.
- The agencies should establish reasonable and consistent timeframes in which to receive, consider and award grants and loans. As noted above, NRTC, its affiliates and members are prepared to act quickly to begin the deployment of broadband in rural America. The authorizing agencies should not impede progress to this goal.
- Priority should be given to applicants demonstrating a history of experience and capability of delivering and supporting advanced technologies on a sustained basis in rural markets.
- Agencies should give priority to applicants that demonstrate the “plus-factor” of a public service commitment. Where applicable, priority should be given to applications that reflect institutional beneficiaries, such as schools, libraries, public safety, and medical

facilities. Applicants should show community enrichment potential through training and even the distribution of computer equipment at low or no cost to those with need. Priority should be given to entities that demonstrate an understanding of and plan to deliver that plus-factor of human need.

VI. CONCLUSION

NRTC and its cooperative members, along with Digital Bridge and WildBlue, form a team that can collectively deliver on the promise of rural broadband. Together we have the ability, the experience, the state and local community ties, and public service mentality, as well as long-term viability and sustainability to meet the intent of Congress and the Federal agencies charged with making universal broadband access a reality.

NRTC thanks the Department and the Commission for their commitment to the expansion of broadband in rural America and for this opportunity to express comments on behalf itself and its member cooperatives.

Respectfully Submitted,



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